

# B R E V I O R A

## Museum of Comparative Zoology

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CAMBRIDGE, MASS.

FEBRUARY 8, 1952

NUMBER 1

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### A NEW PANAMANIAN TREE FROG

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While studying Central American frogs in the Museum of Comparative Zoology, Harvard College, a small, presumably undescribed frog was noted, and Mr. Arthur Loveridge, with his characteristic kindness, suggested that I study the form and describe it if it proved new. The most characteristic of the differential features of this diminutive frog is the very considerable enlargement of the horny spines on the nuptial swelling of the first finger. It is presumed that it is a rivulet species, living in the neighborhood of small streams, rather than a bromeliad species.

After my study of the specimen and comparison with other known species of southern Central America, I conclude that the species is new and I present herewith its description.

*HYLA SHREVEI* sp. nov.

*Type.* M.C.Z. No. 26769 ♂. La Loma, Chiriquieito, República de Panamá; E. R. Dunn and C. Duryea, collectors.

*Diagnosis.* A diminutive frog (25.2 mm.) with a broad, rather flat head; skin smooth; outer fingers with a trace of web, and well-developed discs; canthus rostralis wanting; nostrils nearly terminal; tympanum large directed strongly upward, its diameter at least half of eye length;

eye directed obliquely forward; vomerine teeth in two rounded fasciculi, lying almost completely behind posterior level of large choanae; no web between two inner toes; others one third, to one half webbed; first finger of male with 19-22 large horny spines.

*Description of the type.* Head flattened, broader than body, its width (10 mm.) greater than its length (9.1 mm.); tympanum large, semi-transparent, pigmented, facing more upward than outward, the upper edge obscured by a fold arising at eye and curving back to jaw angle, its diameter (1.5 mm.) equal to half length of eye opening (3 mm.); distance between tympanum and eye 2.8 mm.; eye prominent, directed somewhat forward; length of snout less than eye length (2.85 mm.); canthus absent, loreal region concave, sloping obliquely to lip; nostrils nearly terminal, the areas about them strongly swollen with a depression between; no notch in upper lip; groove from angle of jaw touches tympanum; choanae subcircular, the distance between them 2 mm.; diameter (transverse) of choana .65 mm.; vomerine teeth in two somewhat circular fasciculi almost completely behind the posterior level of choanae, the teeth in somewhat curving rows; they are equally separated from choanae and from each other, a fasciculus as large as a choana; tongue rather thick, broader than long, not or scarcely notched behind; vocal slits very large, lateral; openings of the palatal gland forming a series of separate slitlike openings arranged in a broad V-shape about the middle of palate.

Arm very short, the wrist not reaching tip of snout; first finger short, greatly expanded at base by a very large nuptial swelling and a large metacarpal tubercle; swelling covered with a black, horny plate bearing 19-22 large horny spines; discs of fingers smaller than tympanum, that on first finger only little smaller than those on outer fingers; a small trace of webbing between outer fingers; subarticular tubercles single; supernumerary tubercles numerous; palmar tubercle partly divided; a slight axillary web present; heel reaches forward to edge of eye; tarsal fold represented by a series of tubercles growing more distinct on the proximal end of tarsus; a large inner metatarsal tubercle and a small distinct outer; no web between first and second toes; one fourth webbed between second and third; approximately half webbed between the third and fourth and two fifths webbed between the fourth and fifth, the web forming a slight ridge to discs on sides of digits; subarticular and supernumerary tubercle distinct. Skin on dorsum smooth, slightly wrinkled or corrugated on sides; chin smooth; breast, venter, part of the ventral surface of thighs and region lateral to vent, strongly granular; a rather elongate anal flap, the vent opening midway between upper and lower surface of thighs, followed

by a groove bordered by small granules and on ventral surface by a pair of distinctly larger granules; fold above tympanum curves down to jaw angle.

*Color.* In preservative, light brown above with a brownish-white shade below; the pigment is in minute chromatophores, that can be clearly seen under a lens; no pigmentation on under surfaces except on edge of jaw, under surface of thigh, part of under surface of tibia and some scattered flecks under hand and foot; upper eyelids appearing dark from the dark covering of the eyeball; tip of snout somewhat darker than dorsum.

*Measurements in mm.* Snout to vent 25.2; width of head 10; length of head 9.1; diameter of tympanum 1.5; length of eye opening 3; snout length 2.85; arm 13; hand 7.2; leg 38; tibia 12; foot and tarsus 15.

*Remarks.* The species is probably related to *Hyla zetekii*. There are numerous similarities in structure, and the measurements are similar but the most striking differences appear to be in the remarkable nuptial asperities on the first finger, the position and direction, and the larger size of the tympanum ( $\frac{1}{2}$  instead of  $\frac{1}{3}$  of eye); the absence of the spectacle-like markings about eyes. The characteristic anal decoration of *zetekii* is absent, and the strong granulation on under surface of arm, and on sides is absent.

The species is named for Mr. Benjamin Shreve of the Museum of Comparative Zoology, Harvard College.



*Hyla shrevei* sp. nov. M.C.Z. No. 26769, La Loma, Chiriquito, República de Panamá. E. R. Dunn and C. Duryea, collectors. (Type ♂ X 2.) 1. Dorsal view. 2. Lateral view of head. 3. Enlargement of nuptial spines on inner digit.